Amendments to the Drawings:

The attached sheet of drawings includes a revision to Fig. 4 block S413, correcting "chang" to "change", as requested by the Examiner. This sheet replaces the original sheet including Fig. 4.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

Informalities in the Specification

In the Office Action at page 2, the Examiner objected to the drawings because they include a reference character 112 (FIG. 2) that does not appear in the description and because the word "change" is misspelled in FIG. 4. With respect to FIG. 2, the appropriate paragraph of the specification is hereby amended to include the reference character 112. With respect to FIG. 4, a replacement sheet including the proper spelling of the word "change" is included in this amendment.

In the Office Action at page 3, the Examiner objected to the disclosure with respect to the terms "RAID," "NVRAM," and "GUI." Applicant notes that these terms are well-known in the art and hereby amends the appropriate paragraphs to clarify the meaning of these terms as used in the specification.

Claim Rejections

Claims 1-8 and 10 are pending. Claims 4 and 6 stand rejected under 35 U.S.C. § 112 as allegedly failing to comply with the enablement requirement. Claims 1, 2, 3, 5, and 7 stand rejected under 35 U.S.C. § 112 as allegedly being indefinite for failing to particularly point out and distinctly claim appropriate subject matter. Claims 1-3, 5, 7-8, and 10 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by US Patent Publication No. 2003/0005120A1 to Mutalik et al. (hereafter Mutalik).

With respect to claims 4 and 6, the Examiner rejected these claims in the Office Action at page 3, stating,

> Claims 1 and 5 disclose a first process in which data is mirrored between two logical volumes. Claims 4 and 6 describe performing the first process without having a second logical volume mounted. According to fig. 4, reference numeral S409, when the decision to not mount the second logical volume is made, the process is ended. Further, the specification does not describe how a process that mirrors data to two logical volumes can be performed on one logical volume.

As an initial matter, Applicant notes that claims 1 and 5, upon which claims 4 and 6 respectively depend, are amended herein. Applicant respectfully submits that such claim amendments may clarify any confusion or misconception as to the scope of claims 4 and 6.

Generally, the instant specification teaches that when an information processing unit mounts a second logical volume, before instituting a "pair condition" between a first logical volume and the second logical volume (e.g., the "first process" of claim 1), the information processing unit notifies that effect whereby data written in the second logical volume from the information processing unit can be protected. As the specification teaches beginning at page 21 line 10,

> In the duplication management function, the above-mentioned control which arranges to write data to the sub-volume 310 immediately when data was written to the main volume 310 (a condition in which such control is performed is called a pair condition) can be temporarily suspended. The process to suspend the above-mentioned control like this is called a split process, a condition in which the above-mentioned control is suspended is called a split condition. It is possible to resume the suspended control and shift the condition to the pair condition again.

More specifically with respect to claims 4 and 6, and with respect to the Examiner's reference to S409 of FIG. 4, Applicant submits that a more appropriate teaching for the method of claims 4 and 6 in the specification may be found at least at reference numeral S405. S405 is described in the specification at least at the paragraph beginning at page 27 line 4, which states:

> From the obtained identifier and information, the information processing unit 200 decides whether it mounts the requested sub-volume 310 or not (S405). When it decides that the requested sub-volume 310 is not mounted as a result (S405;No), the process jumps to the (S412).

The process of S412 includes forcing a pair condition so that data is written to both the main volume and the sub-volume. The specification states at page 28 line 15 through page 29 line 2:

> When the information processing unit 200 which mounts the sub-volume 310 receives the pair condition change request (forced) from the managing computer 700 (S411), it sends the pair condition change request (forced) to the storage device 600 (S412).
>
> When the storage device 600 receives the pair condition change request (forced) (S413), the storage device 600 performs the resynch process to change the pair condition in order to shift the relation between the main volume and the sub-volume selected by the user from the split condition to the pair condition (S414). When the change of the pair condition is completed, the storage device 600 gives notice to the information processing unit 200 which sent the pair condition change request (forced) that the change of the pair condition is completed (S415).

In summary, these portions of the specification, among others, teach that if a second logical volume is not mounted, a pair condition change request may be forced to the storage device such that the pair condition may take place. In other words, as recited in claims 4 and 6, the storage device "shifts from the second process to the first process to perform the first process." Thus, even though the information processing unit writes data into the second logical volume, the second logical volume is overwritten with data written in the first logical volume by shifting to a pair condition. In order to prevent or avoid the overwriting, when the information processing unit mounts the second logical volume before shifting to the pair condition, that effect is notified or output.

Therefore, in contrast to the assertion of the Examiner, Applicant believes that there is adequate support in the specification for the methods of claims 4 and 6. Applicant further submits that the methods of claims 4 and 6 are clearly and distinctly claimed.

With respect to claims 1-3, 5, 7, and 10, the Examiner rejected these claims as allegedly being indefinite. Applicant respectfully submits that the amendments herein make this point of rejection moot.

At page 5 of the Office Action, the Examiner rejected claims 1-3, 5, 7-8, and 10 as allegedly being anticipated by the Mutalik reference. The Examiner asserted that Mutalik discloses, "when the information processing unit mounts the second logical volume, outputting that effect from said user interface, in fig. 12, numeral 1008 and par. 90. Also refer to par. 104, which discloses a graphical user interface, which would be a means of notification."

In contrast with the assertion of the Examiner, with respect to step 1008 of FIG. 12, Mutalik states, "[s]tep 1008 begins the notification and cleanup steps which are generally described in FIG. 11" *par. 90.* However, the illustration of FIG. 11 and the description of FIG. 11 in paragraphs 85 through 89 in Mutalik merely includes the word "notification" and has no disclosure whatsoever of what is included in the notification. Further, there is no discussion or suggestion in Mutalic of ***outputting...from said user interface before shifting to the first process*** as required in the amended independent claims.

Similarly, in contrast to the assertion of the Examiner, the discussion of a graphical user interface (GUI) at paragraph 104 of Mutalik merely includes a structure of a software core including a GUI. There is no disclosure or suggestion of what specifically is included in the GUI.

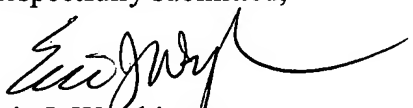
In summary, Mutalik differs from the instant claims at least in that when a second logical volume is mounted before forming a pair condition, that effect is notified to a user interface. As noted, such output from the user interface advantageously prevents overwriting of data in the second logical volume.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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Attachments
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